

ABSTRACT

An improved process for burning solid fuel particles in a combustion chamber and creating a flue gas is disclosed. The method comprises creating a fuel gas stream by mixing the solid fuel particles with a conveying gas, transporting the fuel gas stream through a fuel duct terminating at the combustion chamber at a fuel exit plane and injecting an oxygen stream through an injection device into said fuel gas at an oxygen injection location selected to create a mixing zone to mix the oxygen stream and the fuel gas stream immediately prior to or coincident with combustion of the fuel. Operating parameters of the process can be varied to optimally reduce NO_x emissions.